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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/891,406 | 06/27/2001 | Masashi Kitabayashi | 109321 | 1382 |

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 08/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|----------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/891,406 | KITABAYASHI, MASASHI |
| | Examiner | Art Unit |
| | Andrew T Sever | 2851 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-18 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 27 June 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z
 4) Interview Summary (PTO-413) Paper No(s). ____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the incident polarizer, emergent polarizer, phase plate, visual compensating film and a light transmitting substrate for each must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant acknowledges on page 12 paragraph 74, that applicant has failed to include these structures in the drawings.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not well known what a “visual angle compensating film” does or is and it is not described in the description in a way that one skilled in the art could determine what it is for sure. For purposes of a prior art examination it will be assumed that this is an anti-reflection/glare film.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1 and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashizume et al. (US 6,375,328)

Hashizume teaches in figure 5 a projector comprising a light source (8), a color separating optical system that separates a light beam emitted from the light source into a plurality of colors (924), a plurality of electro-optical apparatuses (925R, 925G, 925B) that modulate the color beams that have been separated by the color separating optical system (924), a prism (961R, 961G, 961B) that synthesizes the color beams that have been modulated by these electro-optical apparatuses (925R, 925G, 925B); and a projection lens (6) that projects light emitted from the prism as is claimed by applicant's claims 5 and 6. Hashizume further teaches in column 10 and figure 6 the structure of a dust preventing member that is a part of the frame holding both the electro-optical apparatus (925 R) and transparent plates (962 R) and in column 16 lines 59-65 that the dust-preventing member (965R) can be formed of resin as is claimed in applicant's

claims 7 and 8. Hashizume teaches in column 11 line 63 – column 12 line 2 that the transparent plates (962 R, G, B and 93 R, G, B) which surround the liquid crystal device and form part of the electro-optical apparatuses can be treated for electrostatic protection in order to prevent dust effectively

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 2, 3, 9-13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume et al. (US 6,375,328) as applied to claims 1 and 5-8 above further in view of Oka et al. (US 6,340,404).

Hashizume as described in more detail above, teaches a projector comprising a light source, a color separating optical system that separates a light beam emitted from the light source into a plurality of colors, a plurality of electro-optical apparatuses that modulate the color beams that have been separated by the color separating optical system, a prism that synthesizes the color beams that have been modulated by these electro-optical apparatuses; and a projection lens that projects light emitted from the prism as is claimed by applicant's claims 9-18. Hashizume further teaches that the electro-optical element is sandwiched between a pair of substrates, which have antistatic properties.

Hashizume however, does not necessarily teach the content of that electrostatic protection.

Oka et al. Teaches in column 1 lines 10-41, that it is useful to provide optical functional films, which are antireflection films on such devices as polarizing plates in liquid crystal displays, optical lenses, and other glass components and support structures. Often this also includes antistatic coatings, which repel dust as taught in column 12 lines 26-34. This antistatic property is provided to the antiglare layer by using conductive particulates of tin or other inorganic conductive substances in a resin as is claimed by applicant's claim 3 and 2. The resin can include Silica as taught in column 9 lines 34-47 and as claimed by applicant's claim 3. Since both Hashizume and Oka teaches that it is desirable to impart anti-static properties to optical components including electro-optical apparatuses; it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Oka to use a inorganic material for an antiglare layer (as nearly as can be understood is claimed in applicant's claims 16 and 17) and to place conductive particulates in it in order to make it also an antistatic layer, so as to reduce the dust that clings to the electro-optical element in the projector taught by Hashizume.

With regards to claims 9-13 and 18, Oka teaches in column 1 lines 10-14 that the antiglare and antistatic films are useful on polarizing plates, glass lenses, and other optical components. Hashizume teaches some of these components in figure 5 that in light of Oka's teaching it would be obvious for one with ordinary skill in the art at the time the invention was made to put an antistatic film of the type taught by Oka on.

Hashizume teaches 3 field lens (953, 952, 951), which are glass lenses and in view of the teachings of Oka it would be obvious to put Oka's anti-static treatment on as is claimed by applicant's claim 9. Hashizume teaches three polarizers (960R, 960G, and 960B) disposed adjacent to a light source side of the electro-optical apparatus, which are a type of polarizing plates and in view of the teachings of Oka it would be obvious to put Oka's anti-static treatment on as is claimed by applicant's claim 10. Hashizume teaches 3 emergent polarizers (961R, 961G, 961B) disposed adjacent to the projection lens side of the electro-optical apparatuses; the polarizers are a type of polarizing plates and in view of the teachings of Oka it would be obvious to put Oka's anti-static treatment on as is claimed by applicant's claim 12. Hashizume teaches a prism for synthesizing the color beams that have been modulate by the electro-optical apparatus, which are optical glass components that commonly are known to also contain polarizers and in view of the teachings of Oka it would be obvious to put Oka's anti-static treatment on as is claimed by applicant's claim 18. With regards to claims 11 and 13 it is well known to form optical components by bonding them to light transmitting substrates and to place the antistatic coating taught by Oka's on the substrate in addition or instead of placing it on the actual component such as incident polarizers and emergent polarizers as claimed in applicant's claims 11 and 13 respectively.

7. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume in view of Oka as applied to claims 2, 3, 9-13, and 16-18 above, and further in view of Ohtsuka et al. (US 6,423,404.)

Hashizume in view of Oka as described in more detail above, teaches a projector comprising a light source, a color separating optical system that separates a light beam emitted from the light source into a plurality of colors, a plurality of electro-optical apparatuses that modulate the color beams that have been separated by the color separating optical system, a prism that synthesizes the color beams that have been modulated by these electro-optical apparatuses; and a projection lens that projects light emitted from the prism as is claimed by applicant's claims 9-18. Hashizume in view of Oka further teaches that the electro-optical element is sandwiched between a pair of substrates, which have antistatic properties. An inorganic layer that has silica and conductive particulates in it provides these antistatic properties. However, Hashizume in view of Oka does not specifically teach a range of resistance values for this layer.

Ohtsuka et al. teaches in column 1 lines 8-22 a transparent layered structure for use on display components that imparts an electric field shielding function as well as antireflection and antistatic functions. Further Ohtsuka teaches in column 2 lines 32-39 that its desirable for the surface resistance value to range from about $10^6 \Omega/\square$ to $10^{10} \Omega/\square$ for achieving the desired electrostatic charging prevention and electric field shielding. Since the purpose of the antistatic layers provided on the surface of the substrates sandwiching the electro-optical element of Hashizume in view of Oka's projector is to prevent the build of electrostatic charge (which attracts dust), it would have been obvious to one of ordinary skill in the art to design the anti-static layer of Hashizume in view of Oka so that it has a resistance value about $10^6 \Omega/\square$ to $10^{10} \Omega/\square$.

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume in view of Oka as applied to claims 2, 3, 9-13, and 16-18 above, and further in view of Suzuki et al. (US 6,379,010).

Hashizume in view of Oka as described in more detail above, teaches a projector comprising a light source, a color separating optical system that separates a light beam emitted from the light source into a plurality of colors, a plurality of electro-optical apparatuses that modulate the color beams that have been separated by the color separating optical system, a prism that synthesizes the color beams that have been modulated by these electro-optical apparatuses; and a projection lens that projects light emitted from the prism as is claimed by applicant's claims 9-18. Hashizume in view of Oka further teaches that the electro-optical element is sandwiched between a pair of substrates, which have antistatic properties. An inorganic layer that has silica and conductive particulates in it provides these antistatic properties. However, Hashizume in view of Oka does not teach the use of a phase plate disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical apparatus, at least one surface of the phase plate being provided with at least one of an antistatic layer and an antistatic treatment.

Phase plates are well known to be provided in projectors. One example is taught in Suzuki et al. in figure 3 a phase plate (half wave plate 20Bi) is provided in one path. Since Hashizume in view of Oka teaches that it is beneficial to put anti-static coatings on optical components which would include phase plates, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to put an anti-static coating on the phase plate in order to prevent dust from adhering to the plate. .

With regards to claims 15 it is well known to form optical components by bonding them to light transmitting substrates and to place the antistatic coating taught by Oka's on the substrate in addition or instead of placing it on the actual component such as a phase plate as claimed in applicant's claim 15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached at 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS
July 29, 2002



RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800